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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,362	03/12/2004	Tetsuya Ogata	R2184.0305/P305	7164

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DICKSTEIN SHAPIRO LLP
1825 EYE STREET NW
Washington, DC 20006-5403

EXAMINER	
GOMA, TAWFIK A	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
10/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,362	OGATA ET AL.	
	Examiner	Art Unit	
	TAWFIK GOMA	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37 and 49-66* is/are pending in the application.

4a) Of the above claim(s) *4-37 and 49-63* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 66* is/are rejected.

7)☒ Claim(s) *64-65* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the amendment filed on 7/16/2008.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (US 5257131) in view of Yokota (US 5065380).

Regarding claim 1, Yoshida discloses an optical pickup comprising a diffraction element disposed at a position on an optical path of a light beam from the object (1, fig. 1 and 11, fig. 8), the light beam entering the diffraction element at an incident angle (fig. 6), the position of the diffraction element is determined in accordance with a positional relation with the object (fig. 6 and col. 12 lines 28-65), wherein the diffraction element diffracts diffraction light at a diffraction efficiency that varies in accordance with an incident angle of the light beam (fig. 9 and col. 13 lines 37-57); and a photo detector that receives the diffraction light diffracted by said diffraction element and outputs an photoelectric signal (18, 19, fig. 5). Yoshida fails to disclose wherein the optical pickup is a tilt sensor for determining information related to a tilt of an object to a reference plane. In the same field of endeavor, Yokota discloses an optical pickup also used as a tilt sensor (col. 4 lines 22-42). It would have been obvious to one of ordinary skill in the art to use the pickup as a tilt sensor. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have used the optical pickup as a

tilt sensor to apply a known technique to a known pickup device ready for improvement, to yield predictable results.

Regarding claim 2, Yoshida further discloses wherein an order of the diffraction light received by said photo detector is that of a diffracted light of a greatest intensity (15a, 18, fig. 5 and 15b, 19, fig. 5).

Regarding claim 3, Yoshida further discloses wherein said diffraction element is set so that the relation between the intensity of the diffraction light and the incident angle is substantially linear an a predetermined range of the incident angle (fig. 9 and col. 13 lines 38-58).

Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (US 5257131) in view of Yokota (US 5065380) as applied to claims 1-3 above, and further in view of Saimi et al (US 6738324).

Regarding claim 66, Yoshida in view of Yokota fail to disclose wherein the diffracting element is a volume hologram. In the same field of endeavor, Saimi discloses the use of a volume hologram as a diffraction element (col. 11 lines 24-46). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to use a volume hologram as the diffracting element. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have used a volume hologram as it would have been the simple substitution of a known element for another which would yield predictable results.

Response to Arguments

Applicant's arguments filed 7/16/2008 have been fully considered but they are not persuasive. Applicant's arguments that Yoshida fails to disclose a diffraction element

where the diffraction efficient varies in accordance with the incident angle is not persuasive because Yoshida's disclosure in figure 9 clearly shows that the diffraction efficiency varies with respect to the incident angle. Applicant's contention that Yoshida only discloses setting the incident angle based on the diffraction efficiency within a predetermined range does not negate the fact that a light which is incident on the diffraction grating outside of this range varies the diffraction efficiency of the grating as shown in figure 9. Furthermore, even with the range disclosed by Yoshida, the diffraction efficiency still varies according to the angle (i.e Angle = 58 degrees vs. 54 and 62 degrees)

Regarding applicant's arguments with respect to claim 3, applicant's arguments that Yoshida fails to disclose wherein the diffraction efficiency is substantially linear within a predetermined range, this argument is not persuasive because Yoshida shows a linear relationship within the range of 56-60 degrees since the efficiency is constant within that range. Furthermore, the diffraction efficiency is "substantially linear" for specific ranges of incident angle according to figure 9 (i.e. Angle = 64-68 degrees).

Allowable Subject Matter

Claims 64-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAWFIK GOMA whose telephone number is (571)272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

/Tawfik Goma/
Examiner, Art Unit 2627